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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/520,780	09/12/2005	David Fedida	480102.425USPC	9955

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SEED INTELLECTUAL PROPERTY LAW GROUP PLLC
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EXAMINER

CARLSON, KAREN C

ART UNIT	PAPER NUMBER
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1656

MAIL DATE	DELIVERY MODE
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07/17/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/520,780

Applicant(s)

FEDIDA ET AL.

Examiner

Karen Cochrane Carlson, Ph.D.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-61 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☐ Claim(s) ____ is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☒ Claim(s) 1-61 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

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Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-15, 25, 26, 28-40, 50, 51, and 53-61, drawn to constitutively open voltage gated potassium channels drawn to Kv1.5 classified in class 530, subclass 350.
- II. Claims 1-7, 16, 17, 28-31, 41, 42, and 53-61, drawn to constitutively open voltage gated potassium channels drawn to Kv10, classified in class 530, subclass 350.
- III. Claims 1-7, 16, 18, 28-31, 41, 43, and 53-61, drawn to constitutively open voltage gated potassium channels drawn to Kv11, classified in class 530, subclass 350.
- IV. Claims 1-7, 16, 19, 28-31, 41, 44, and 53-61, drawn to constitutively open voltage gated potassium channels drawn to Kv12, classified in class 530, subclass 350.
- V. Claims 1-7, 20, 21, 28-31, 45, 46, and 53-61, drawn to constitutively open voltage gated potassium channels drawn to Kv1, classified in class 530, subclass 350.
- VI. Claims 1-7, 20, 22, 28-31, 45, 47, and 53-61, drawn to constitutively open voltage gated potassium channels drawn to Kv2, classified in class 530, subclass 350.
- VII. Claims 1-7, 20, 23, 28-31, 45, 48, and 53-61, drawn to constitutively open voltage gated potassium channels drawn to Kv3, classified in class 530, subclass 350.
- VIII. Claims 1-7, 20, 24, 28-31, 45, 49, and 53-61, drawn to constitutively open voltage gated potassium channels drawn to Kv4, classified in class 530, subclass 350.

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- IX. Claims 1-7, 25, 27, 28-31, 50, 52, and 53-61, drawn to constitutively open voltage gated potassium channels drawn to hERG, classified in class 530, subclass 350.

The inventions are distinct, each from the other because of the following reasons:

The potassium channels of Inventions I-IX differ in structure and/or function one from the other. Therefore, Inventions I-IX are patentably distinct.

Independent Claim 1 recites voltage gated potassium channels in their broadest sense, encompassing tens of distinct families of channels and hundreds different channels. This claim reads on thousands of peptide sequences that are not related in structure, and therefore this claim is considered to comprise an improper Markush group. This claim is not a proper linking claim because it, in fact, comprises multitudes of disparate sequences – see the specification wherein the families of voltage gated potassium channels are distinguished.

Applicants must choose a single channel family/sequence for examination. This is not a species election, but an election of a single invention.

If Applicants believe that their channel families/ sequences are so overlapping as to be obvious variants of each other, Applicants may choose a single family/ sequence for search, this family/sequence being a representative sequence of all sequences or a designated subset of the sequences, as Applicant may choose. If Applicant present a single family/sequence to represent all channel families/sequences claimed, it will be understood that if this family/sequence or any family/sequence is found, the remaining sequences will be considered to be obvious variants of the found sequence.

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Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a petition under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karen Cochrane Carlson, Ph.D. whose telephone number is 571-272-0946. The examiner can normally be reached on 7:00 AM - 4:00 PM, off alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Kathleen Kerr Bragdon can be reached on 571-272-0931. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


KAREN COCHRANE CARLSON, PH.D.
PRIMARY EXAMINER